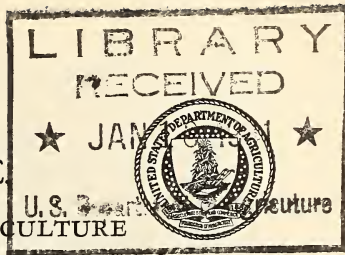


## Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.





84C  
29  
*Circular* No. 589

December 1940 • Washington, D. C.

UNITED STATES DEPARTMENT OF AGRICULTURE

---

---

# The Atlantic, Pemberton, and Burlington Blueberries

By GEORGE M. DARROW, *senior pomologist, Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry*, and J. H. CLARK, *associate pomologist, New Jersey Agricultural Experiment Station, New Brunswick, N. J.*

## CONTENTS

	Page		Page
Introduction.....	1	Pemberton—Continued.....	
Atlantic.....	3	Description and comparisons.....	5
Origin.....	3	Technical description.....	6
Description and comparisons.....	3	Burlington.....	
Technical description.....	4	Origin.....	6
Pemberton.....	5	Description and comparisons.....	6
Origin.....	5	Technical description.....	7
		Dissemination.....	7
			8

---

## INTRODUCTION

Three new varieties of blueberries—the Atlantic, Pemberton, and Burlington—are being introduced as the result of the cooperative breeding work between the United States Department of Agriculture and the New Jersey Agricultural Experiment Station. They were originated by the late F. V. Coville, who had charge of the blueberry breeding work of the United States Department of Agriculture until his death in 1937, and who originated all of the important commercial varieties now grown except the Rubel. These three new varieties are discussed in this circular.

Cultivated blueberries in the Northeastern States have been derived chiefly from the so-called highbush or swamp blueberry, *Vaccinium corymbosum* L., native to the region that extends from southern Georgia to southern Maine and west to southern Michigan. The most notable characteristic of cultivated varieties as distinguished from the wild is their large fruit. The three new varieties now being introduced for commercial cultivation are notable in having very large berries; in fact, the Atlantic and Pemberton are larger than any named variety now in commercial production, and approach the Dixi in size. A sample of wild highbush berries, purchased from a roadside stand July 21, 1939, had 384 berries to the ½-pint cup; Rubel, which is the best selected wild bush widely cul-



FIGURE 1.—Clusters of: *A*, Atlantic; *B*, Rubel; *C*, Pemberton blueberries, showing relative size of the new varieties as compared with Rubel.

tivated, had 184 berries to the one-half pint; Jersey, the largest hybrid variety widely grown, had 100 berries whereas Atlantic had 73 and Pemberton 82 (fig. 1).

Rubel, the best selection from the wild, was over twice the size of the wild, the Jersey over three times, and the two new ones four and five times the size of the wild. Furthermore, these three new varieties ripen late to very late in the season and in 1938 were not subject to cracking when varieties like the Cabot and Rancocas cracked badly.

## ATLANTIC

### ORIGIN

The Atlantic, tested as GN-45, is a cross of Jersey  $\times$  Pioneer made in 1925, and selected from a field of seedlings grown on the Joseph J. White Co. property at Whitesbog, N. J. It has been most extensively tested by Theodore Budd, and has been particularly outstanding on the rather fertile soil of his property at Pemberton, N. J.

### DESCRIPTION AND COMPARISONS

The color of the Atlantic is a best blue; that is, it has a maximum bluish coloration as contrasted to the bluish-black or black of other varieties. Its flavor is good, tart at first, but finally sweet and with some aroma. Two outstanding qualities are its superior size and noncracking in wet weather. It is introduced as a late midseason variety to be tested in comparison with Rubel. At its best the fruit of the Atlantic is much larger in size, better in color and in flavor, and the plant requires far less time to prune than does the Rubel. It probably is more difficult to propagate than Rubel.

It ripens about with the Rubel, but in 1939 the crop was nearly all picked in two pickings whereas the Rubel required three. Size comparisons are given in table 1.

TABLE 1.—Size comparisons of Atlantic and Rubel blueberries on same dates, 1939

Variety	Berries per ½-pint standard cup gathered in—			Average
	First picking	Second picking	Third picking	
Atlantic.....	Number 72	Number 80	Number 66	Number 73
Rubel.....	138	134	144	139

The grade sizes in New Jersey in 1939 were Crown, up to 90 per ½-pint standard cup; Harvest Moon, 90 to 140 per cup; Green Leaf, 140 to 190 per cup; and Star, 190 to 250 per cup. All the crop of the Atlantic made Crown size, whereas the Rubel were Harvest Moon size at first, becoming smaller as the season progressed so that the last pickings were classed as Star.

The Atlantic has a better-than-average scar, which is the name given to the small hole left when the berry is picked or pulled from the stem. Various types of scars are shown in figure 2. The Atlantic scar is very small and few of the berries tear (table 2).

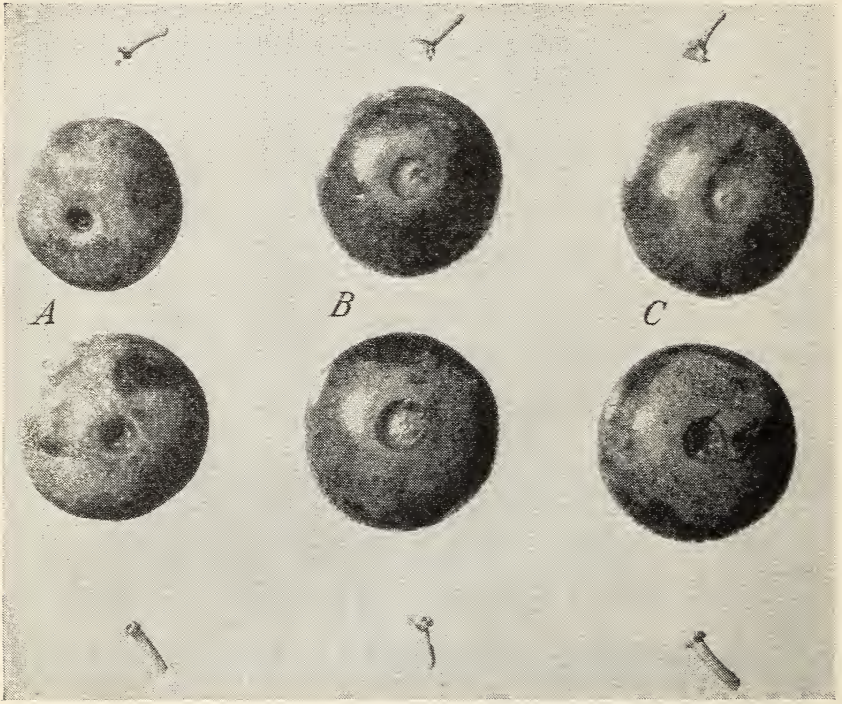


FIGURE 2.—A, Two berries of the Burlington variety showing small dry scar; and berries of the Pemberton variety showing (B) large moist scar and (C) torn scar.

TABLE 2.—Comparison of tearing of Atlantic and Rubel blueberries when picked <sup>1</sup>

Variety	Berries torn during—		
	First picking	Second picking	Third picking
Atlantic.....	Percent 1	Percent 0	Percent 0
Rubel.....	3	4	0

<sup>1</sup> Counts made on 100 berries per variety for each picking.

### TECHNICAL DESCRIPTION

**BUSH.**—Vigorous to very vigorous; 6 feet high, 6 feet spread, open-spreading to round; young bark yellow-green with tinge of red, old bark gray with fine texture.

**LEAVES.**—Large, oval to ovate, slightly elongate, not serrate, slightly lighter green than Pemberton, slightly reddish.

FRUIT.—Very large, angular, five sided, oblate, best blue, bloom rubs a little; firm, medium texture; medium juicy, subacid, slight aroma, quality medium; scar one of best; narrow, very small brush, receptacle small; calyx medium to small, sepals medium; season late, with Jersey.

CLUSTER TYPE.—Medium, not very long, to nine buds; loose; peduncles with as many as eight berries, short; pedicels long; clusters not so large as Pemberton. Very productive.

## PEMBERTON

### ORIGIN

The Pemberton, tested as FI-66, came from the cross Katharine × Rubel made in 1921 and selected from a field of seedlings grown on the Joseph J. White Co. property, Whitesbog, N. J. It has the same parentage as the Stanley and was selected by Dr. Coville for intensive testing at the same time.



FIGURE 3.—The remarkably vigorous growth of the Pemberton variety is shown by the row at the left in comparison with the row of Rancocas to the right.

### DESCRIPTION AND COMPARISONS

The color of the Pemberton is a second blue, considerably darker than the color of the Atlantic. Its flavor is good, at times very good, with a slight aroma. The bush is one of the most vigorous of all varieties and is probably the most productive of any under the conditions at Mr. Budd's place (fig. 3). The fruit is not so aromatic nor so fine a blue as the Stanley. However, the berries are much larger, the bush more vigorous, and the crop ripens considerably later. It is introduced as a late variety of large size, of great productiveness, and is relatively easy to prune. It is propagated very easily.

In 1939 it began to ripen with Rubel, but continued to ripen until after the Jersey season. Size comparisons for four pickings at Pemberton, N. J., on the same date are given in table 3.

The Pemberton was not quite so large as the Atlantic but was far larger than the Rubel, the entire crop making the Crown size. The chief fault of the Pemberton is its poor scar, which is large and frequently associated with torn skin (fig. 2 and table 4). Although it does not crack in rainy seasons as do many other sorts, nevertheless, because of its poor scar, in wet seasons it should be picked and marketed promptly.

TABLE 3.—Size comparisons of Pemberton and Rubel blueberries on same dates, 1939

Variety	Berries per ½-pint standard cup gathered in—				Average
	First picking	Second picking	Third picking	Fourth picking	
Pemberton.....	Number 81	Number 76	Number 88	Number 82	Number 82
Rubel.....	138	134	144	184	150

TABLE 4.—Comparison of tearing of Pemberton and Rubel blueberries when picked<sup>1</sup>

Variety	Berries torn during—			
	First picking	Second picking	Third picking	Fourth picking
Pemberton.....	Percent 7	Percent 2	Percent 25	Percent 23
Rubel.....	3	4	0	0

<sup>1</sup> Counts made on 100 berries per variety for each picking.

## TECHNICAL DESCRIPTION

**BUSH.**—Very vigorous, 7 feet high with 6 feet spread, upright spreading, not so stiff as Rubel; twig color yellowish green, old wood gray.

**LEAVES.**—Very large, broad, oval, nonserrate, medium dark green between that of Rubel and Rancocas, thick to medium, very healthy, much freer from mildew than Jersey and Rubel; petiole slightly longer than that of Rubel or Concord.

**FRUIT.**—Very large, uniform, roundish oblate, not so flat as Concord, close to Rubel shape; blue, but darker than Atlantic, bloom rubs, medium to firm, fine texture; medium juicy, mild subacid; slight aroma, quality above medium; scar medium to large, moist, not tearing badly, brush large; calyx medium size, sepals medium to large; season late, with Rubel, but more late berries.

**CLUSTER TYPE.**—Large, long, to 17 buds, loose; peduncles with as many as 11 berries, long; pedicels long. Very productive.

## BURLINGTON

### ORIGIN

The Burlington blueberry originated as a cross of Rubel × Pioneer made by F. V. Coville in 1916. It was selected from the seedling



field of the Joseph J. White Co. at Whitesbog, N. J., by Elizabeth White, and was propagated and tested by her.

#### DESCRIPTION AND COMPARISONS

The picking quality of the Burlington is superior to nearly all commercial varieties, for the berry separates from the stem with the least tearing of the flesh and skin (fig. 2). Because of this ease of separation it keeps better than most sorts. It ripens somewhat later than Jersey and Rubel and, because of its good keeping quali-



FIGURE 4.—A row of mature bushes of the Burlington, showing their excellent growth habit.

ties, may extend the season at least 2 weeks. It is above the average in dessert quality, being surpassed only by the Stanley as observed in New Jersey. The bush is vigorous, erect, and seems healthier than most other varieties (fig. 4). The berries are a good blue color, medium to large, and hold up in size to the end of the season. The clusters are medium in size (fig. 5). It propagates easily.

It is being named and introduced for commercial production because of several notable qualities, including lateness, vigor, and health of bush, and very good dessert quality.

#### TECHNICAL DESCRIPTION

**BUSH.**—Vigorous to very vigorous, up to 8 feet, upright spreading, combining the best features of both parents. The young growth soon acquires a red tinge; the older bark is brownish gray.

**LEAVES.**—Large, nonserrate, medium width, toward oval, dark, may have some mildew spots; the petioles are reddish, medium in length.

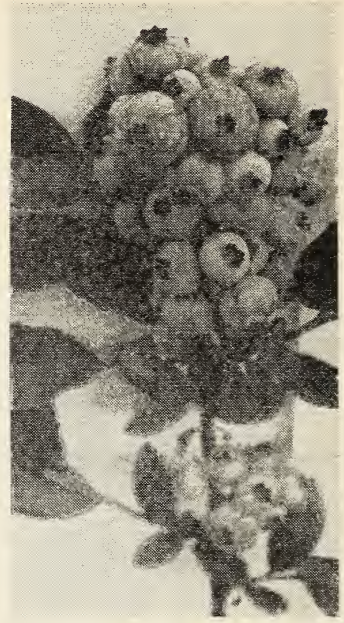
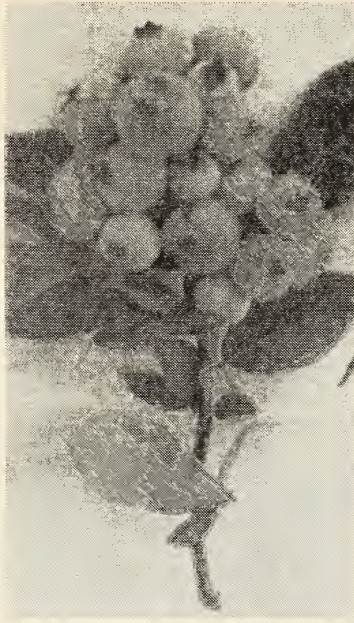


FIGURE 5.—Clusters of the Burlington blueberry. Because this variety does not have excessively large clusters less pruning is required than for most varieties.

**FRUIT.**—Large, regular, roundish oblate, uniform in size, color of Jersey, bloom rubs some; firm, medium texture; medium juicy, tart but sweet when fully ripe, aromatic, quality above medium; scar small, dry, best, very small receptacle, does not tear easily; calyx smaller and neater than Jersey, sepals medium size; season after Jersey and Rubel, colors before fully ripe.

**CLUSTER TYPE.**—Medium size, buds to four, medium tight, peduncles with as many as 9 berries, short. Moderately productive.

## DISSEMINATION

The United States Department of Agriculture has no plants of these varieties for distribution. Plants and cuttings may be obtained from cooperative growers in New Jersey.